

EXAMINER'S STATEMENT OF REASONS FOR ALLOWANCE

Response to Amendment

1. This action is responsive to applicant's amendment and remarks received on 1/19/10. Claims 26-31, 36-40, 43-57, 63-66, 69-77 are currently pending.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Noel C. Gillespie (Reg #: 47,596) on 1/28/10.

The application has been amended as follows:

36. (Currently Amended) The system of claim ~~33~~ 26, wherein the image graph constructor is further configured to perform the image graph generation process, the process comprising the steps of: reducing the character to a skeleton image; representing the skeleton image of the character in the form of a linked list comprising a plurality of entries and a plurality of pointers between the entries, organized on the basis of internal structure corresponding to a

Art Unit: 2624

plurality of nodes, and connections between the plurality of nodes, wherein each of the plurality of entries in the linked list corresponds to one of the plurality of nodes, and each of the pointers between entries corresponds to one of the connections batch nodes; and storing the image graph of the character as the representation of the internal structure of the character.

63. (Currently Amended) The method of claim 51, further comprising storing the skeleton image of each character as a data structure having a header and a connectivity network.

Allowable Subject Matter

3. Claims 26-31, 36-40, 43-57, 63-66, 69-77 (to be re-numbered as 1-39) are allowed.

4. The following is an examiner's statement of reasons for allowance:

Regarding claim 26, the most relevant prior art of record, Andersen with Syeda-Mahmood combination, teaches an imaged document, the imaged document being stored in a document database; a source language library for storing source language search terms; an image graph constructor coupled to the document database and the source language library, the image graph constructor configured to generate search term image graphs from the source language search terms, and generate a collection of image graphs representing the imaged document by performing an image graph generation process (see Final Rejection on 2/3/09).

Applicant's claimed invention distinguishes over the Andersen with Syeda-Mahmood combination by reducing characters included in the source language search terms and in the imaged document to skeleton images comprising a plurality of nodes and a plurality of

Art Unit: 2624

connections, ordering the plurality of nodes for each skeleton image in a first order; reordering the plurality of nodes for each skeleton image in a second order, wherein the second order is the same for all characters having the same number of nodes connected by the same number of connections between nodes; representing the skeleton images of the characters on the basis of an internal structure of the character by a descriptor corresponding to a plurality of nodes and connections between the plurality of nodes of the character, wherein the descriptor is a Connectivity Key that is unique for a given plurality of nodes and connections between the given plurality of nodes, the unique Connectivity Key corresponding to the second order of the plurality of nodes, and constructing the search term image graphs and collection of image graphs from image graphs of the characters; an image graph database for storing the search term image graphs and the collection of image graphs generated by the image graph constructor; and a comparison module coupled to the image graph database, the comparison module configured to search the imaged documents by comparing the collection of image graphs with selected search term image graphs, wherein if at least one image graph from the collection of image graphs matches the selected search term image graphs, the imaged document is flagged as containing a search term justifying further analysis of the document.

Regarding claim 51, the most relevant prior art of record, Andersen with Syeda-Mahmood combination, teaches a processor configured to perform the following: establishing a source language lexicon, the source language lexicon including source language search terms; searching the imaged document by comparing the collection of image graphs to inputted search term image graphs; and flagging imaged documents when an image graph from the collection of

Art Unit: 2624

image graphs matches one of the selected search term image graphs (see Final Rejection on 2/3/09).

Applicant's claimed invention distinguishes over the Andersen with Syeda-Mahmood combination by creating an image of each of the characters contained in the foreign source language lexicon using an image graph constructor; reducing the image of the characters to a skeleton image comprising a plurality of nodes and a plurality of connections; ordering the plurality of nodes in a first order; reordering the plurality of nodes in a second order, wherein the second order is the same for all characters having the same number of nodes connected by the same number of connections between nodes; representing the skeleton images of the characters using a Connectivity Key that is unique for a given plurality of nodes and connections between the given plurality of nodes, the unique Connectivity Key corresponding to the second order of the plurality of nodes; providing an imaged document in the source language; generating search term image graphs representing the source language search terms using the character images and generating a collection of image graphs representing the imaged document.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Art Unit: 2624

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to EDWARD PARK whose telephone number is (571)270-1576. The examiner can normally be reached on M-F 10:30 - 20:00, (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samir Ahmed can be reached on (571) 272-7413. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Edward Park
Examiner
Art Unit 2624

/Edward Park/
Examiner, Art Unit 2624
/Brian Q Le/
Primary Examiner, Art Unit 2624